

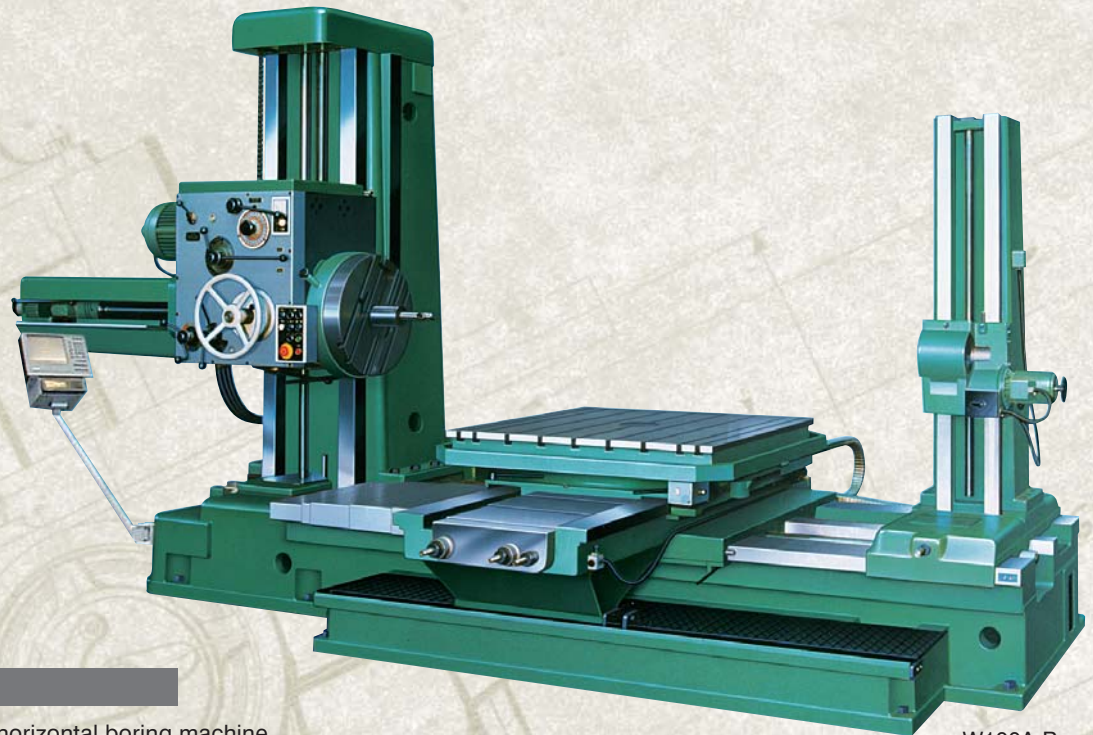
W100A-R, H100A



ReTOS Varnsdorf s.r.o., The Czech Republic, followed up with 40 years tradition in the field of horizontal boring machines overhauls. We use the most modern technologies as our parent company TOS Varnsdorf a.s.

2010

W100A-R, H100A - conventional horizontal boring mill – table type



W100A-R

Features

- manually controlled horizontal boring machine W100A-R (H100A)
- fixed column, crosswise travelling table
- 4 linear axes, rotary table
- sliding workspindle
- facing head with tool slide
- machine designed for piece and low-volume engineering production
- suitable for roughing as well as for finishing
- digital optical admeasuring of linear axes and table rotation with DROs
- optionally can be fitted by f.e. tool cooling kit (CHZ), outboard support, spindle clamping / guiding support, rectangular milling head etc.

Configuration

Travelling groups

- X – travel of rotary table slide on saddle
- Z – travel of saddle on bed
- Y – vertical headstock travel on column
- W – spindle travel
- U – travel of tool slide of facing head
- B – table rotation
- S – rotation of sliding workspindle and facing head

Group guidance

- guideways on all linear axes are grinded, counterways casted by plastic
- guideways on bed and saddle are reinforced with hardened steel plates (up client request, if machine has not already been equipped with it)
- guideways of rotary table and facing head are scrapped

Lubrication

- HYTOS lubrication set
- central, time powered by PLC in electric cabinet
- lubricates X, Y, Z, W, B axes
- U axis lubricated by grease nipples

Clamping

- X, Y, Z, W, B axes - manually by levers

Headstock

- sliding workspindle + facing head
- motorical tool clamping ISO 50 (up client request, if machine has not already been equipped with it)
- asynchronous motor for driving of spindle speed and of feeds of all groups
- spindle speed and feeds driven by mechanical lines – gears

- mechanical shifting of spindle speed and feeds
- most of controls placed on headstock
- headstock balancing - chain and counterweight led in column

Admeasurement of position

- HEIDENHAIN digital optical admeasuring and DROs
- DRO PT 880 for admeasuring of X, Y, Z, W, B axes
- DRO ND 780 for admeasuring of X, Y, Z axes
- X, Y, Z axes – LS 688 rules
- W axis - LS 388 rule
- B axis - ROD 480
- 4x90° optical readout

Energy distribution

- IGUS chain energy carriers

This document covers machines in the development range H100A, W100, W100A.



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Coverage of machine

- bed guideways between column and saddle partly protected by telescopic way cover (only W100A-R)

CE

- comprehensive safety elements according to the applicable legislation and technical standards
- operator cover on headstock
- original spoke hand wheel replaced by new filled one
- stairs to headstock
- working area of the machine is fenced off

Tension options

- 50Hz - 3 x 400V, 3 x 415V, 3 x 500V
- 60Hz - 3 x 220V, 3 x 440V, 3 x 460V, 3 x 480V, 3 x 575V
- parameters of electric parts given in the tables are valid for option 3 x 400V / 50Hz

Optional accessories

- portable control panel PP-100 (necessary to order together with the machine)
- outboard support
- CHZ-100 tool cooling kit
- PVD100-550 spindle guiding support
- SP100 spindle clamping support
- spindle clamping support up to 800 rpm
- FP40-100 rectangular milling head
- UFP40-100 universal milling head
- change gear kit for thread cutting
- TD50 telescopic tool holder
- VT80-2500-ISO50 smooth boring bar
- VT80-3150-ISO50 smooth boring bar
- VT100-2500-ISO50 smooth boring bar
- VT100-3150-ISO50 smooth boring bar
- LLK-150/80 sliding bush of the outboard support
- LLK-150/100 sliding bush of the outboard support
- VH80 three-tool boring head
- VH80-100 three-tool boring head
- VHU-ISO50 universal boring head
- UK500 clamping cube
- UU800, UU950, UU1120 clamping angle plates
- spares kit for 3-year operation

Machine parameters (values in the gaps are valid for H100A)		
Workspindle diameter	100	mm
Clamping taper	50	ISO
	6	Morse
Spindle speed range - 23 gears	7,1 - 1120	rpm
Main motor power	(7,5) 11	kW
Speed of main motor	1460	rpm
Maximum torque of the spindle - Nmin	(1080) 3350	Nm
Maximum torque of the spindle - Nmax	78,5	Nm
X...transversal travel of table	(1250) 1600	mm
Z...longitudinal travel of table (with / without outboard support)	1250	mm
Z...longitudinal travel of table (without outboard support)	1750	mm
Y...vertical travel of headstock	1120	mm
W...spindle stroke	900	mm
Table clamping surface	1250 x 1250	mm x mm
Table loading capacity	3000	kg
Width of T-slots	23 H8	mm
Centring hole diameter / depth	180H6 / 6	mm
Feeds...X, Y, Z, W, U - 18 gears	18 - 900	mm / min
Feeds...X, Y, Z, W, U - 32 gears	0,02 - 12	mm / rev
Thread feeds...X, Y, Z, W, U - metric - 18 gears	0,25 - 12	mm / rev
Thread feeds...X, Y, Z, W, U - inch - 18 gears	120 - 2,5	threads / 1"
Rapid traverse...X, Y, Z, W, U	2800	mm / min
Rapid traverse of table rotation...B	1	rpm
Total power consumption	15	kVA
Machine weight	14000	kg
Total area including CE - approximate	5000 x 7500	mm x mm

Facing head parameters

Facing head diameter	600	mm
Centring hole diameter / depth	280H6 / 8	mm
U...tool slide travel	210	mm
Maximal facing diameter	900	mm
Facing head speed range - 16 gears	7,1 - 224	rpm

Spindle speed range and feeds H100A after overhaul are the same as W100A-R. This is given by usage of new available W100A spares.

List of supported standards of tool shanks / clamping adapters for ISO 50

Tool shank	Standard	Adapter
Long shank - metric	ČSN 220432	4100597
Long shank - metric	DIN 2080	4100597
Long shank - inch	DIN 2080	4100892
Short shank - metric	ČSN 220434	4100809
Short shank - metric	DIN 69871	4100809
Short shank - metric	MAS BT 403-1982	4100809
Short shank - inch	CAT ANSI / ASME B5.50-1985	4100913

Outboard support parameters (not valid for H100A)

Face of hollow spindle to bearing of outboard support	2800	mm
Bearing axis above table	0 - 1120	mm
Rapid traverse of bearing	696	mm / min
Bearing bore	150 H7	mm
Motor power of outboard support	0,55	kW
Motor speed of outboard support	2780	rpm

Some of listed accessories are not compatible with H100A.

- Machine design can be tailored to suit the needs of the client